DELAY IN INFRASTRUCTURE PROJECT

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I/We* hereby declare that I/We* have checked this thesis/project* and in my/our* opinion, this thesis/project* is adequate in terms of scope and quality for the award of the Bachelor Degree of Civil Engineering

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I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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ABSTRACT

Delays can be defined as the late completion of work compared to the planned schedule or contract schedule. It will effect due to the construction such as time overrun and cost overrun. But the delay can be minimizing if the cause was identified. The objective of this study was to identify the main causes, the effects, and methods of minimizing infrastructure project delays. This study was carried out based on the literature review and a questionnaire survey. A total of six groups were contributed to the main cause of construction delays, six factors that effects delays and six methods of minimizing infrastructure project delays were identified based on literature review. A questionnaire survey was distributed to the randomly respondent in Malaysia. The target respondent of question is management team include site supervisor, assistant engineer, engineer civil, consultants and contractors. The top three most important factors that contributed to the main causes of delays were improper planning and poor site management, low productivity of labors and equipment, and delay in preparing and approving document by the consultant during construction.

ABSTRAK

Kelewatan boleh didefinasikan sebagai kelewatan atau penangguhan kerja-kerja yang telah dijadualkan dalam kontrak yang memberi kesan kepada pembinanaan seperti melebihi kos dan masa pembinaan. Namun, ia dapat dikurangkan jika punca kelewatan dapat dikenalpasti. Objektif yang terlibat dalam kajian adalah untuk mengenal pasti punca-punca utama, kesan, dan kaedah-kaedah meminimumkan kelewatan dalam infrastruktur projek. Kaedah literatur dan soal selidik kaji selidik dipilih untuk mendapatkan data. Berdasarkan kajian literature, terdapat enam jenis kumpulan yang menjadi penyebab utama kelewatan pembinaan, enam faktor kesan kelewatan dan enam kaedah bagi mengurangi kelewatan telah dikenalpasti. Tinjauan soal selidik telah diedarkan kepada responden secara rawak di Malaysia yang terdiri daripada kumpulan pengurusan seperti penyelia tapak, pembantu jurutera, jurutera awam, perunding dan kontraktor. Antara faktor paling penting yang menyumbang kepada punca utama kelewatan ialah perancangan yang tidak menyeluruh dan pengurusan tapak yang lemah, kebolehkerjaan rendah dari segi tenaga kerja dan peralatan dan kelewatan perunding dalam menyediakan dan meluluskan dokumen semasa pembinaan.

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INTRODUCTION

1.1 Introduction

The infrastructure industry is one of the major sectors that provide important thing for the development of an economy in Malaysia. Successful project are consider when its will completed on time, within the budget that given, with the great quality of construction, following the specifications and will be safe to user. Besides, it will are determined by functionality, profitability to contractors and absence of claims after the finished of the project. Nowadays, in Malaysia has a lot of projects experience extensive delays and thereby exceed initial time and cost estimates. The delays are classified or categorized into four basic ways which is critical or non-critical delays, excusable or non-excusable delays, concurrent delay and compensable or non-compensable delays (El-Saadi (1998).

The delay of construction occurs when a project that was agreed and scheduled can't achieve the target within the contract period. This problem is usually due to the delays of project start-up times, delays in payments from owners, budgeted expenses, failure to meet customer requirements, and others. This not only affect corporate finance ability, but also damage in company reputation and influence that social and development of the nation economy. According to Abdullah et al. (2010), project team should acquire a deep understanding of the factors that would affect projects in order to help projects to be completed on time.

Based on Kaza, Ulibeyli, and Tuncbilekli (2012), delay under construction can cause some changes in a project like late completion, lost productivity, acceleration, add cost and termination of the contract. Time the issues fulfil or delay continuously for many years. Delay in the project means that what not completion from the project in a certain period as sanctioned in the contract. Time fulfil is a common problem in many infrastructure projects, that show many parties. Infrastructure delay usually has a misunderstanding between contractor, subcontractor and owner or clients. According to the JCT form, under clause 25, details relevant events which are beyond the control of the contractor. If the occurrence of any of those contingencies occur so as to cause the works to take the longer to complete then, because those contingencies are not at the contractor's risk, that much more time must be added to the contract period.

According to Joint Contracts Tribunal (JCT) 1980 the contractor must to identify any cause of delay or likely delay to progress and requires the contractor to estimate the effect on the date for completion for each delay event and to provide all the necessary particulars demonstrating how such an effect has been calculated. For example, an extension of time (EOT) assessment techniques should be used to demonstrate any such delay to the date for completion. .The important is to recognize that it is only delayed to the progress of the works that the contractor has to notify about the effect of the project on the date of completion.

In addition, weather or ground conditions may impair the infrastructure of the delay because if a place is raining, it will cause the work progress will stop and the ground conditions may change after raining. From New Straits Times, 22 January 2018 MIC chairman Datuk R. Goonasekaran says that, "Due to the red soil in the area, each time it rains, the contractor has to stop earthworks and this resulted in some setbacks in the progress".

According to Mehdi Riazi, Salman Riazi & Lamari Fiona (2013), delays in construction projects have become a major obstacle in the last decade and is an even more serious issue in developing countries and based on them in Malaysia, delay is one of the most significant problems with major concerns are given to public sector projects as it has a direct relationship with the public. This could endanger the safety of the public when a project

delay over a long period of time is particularly a delay in road or bridge project as it may become the accident in the future.

1.2 Problem Statement

Delays in a construction project can be such a problem and a very serious issue for the parties involved such as client, consultants, and contractors. There are many adverse effects that can occur as the results of the delays. To reduce this problem from occurring, site management should be made carefully. Since, Malaysia develops to industrial direction, infrastructure industry's role enhancing to the large. When the project is delayed, the client or customer will have the effect like the road or bridge cannot be used but they had to postpone their initial planning too and the cost of overruns also will be increased. This issue is a main of problem in the infrastructure industry not only in Malaysia but the phenomena is a global problem for construction industry worldwide.

In the study of Yusof, Mohammad, and Mat Derus (2010), the main conclusions of the research are that delays due to nominated sub-contractor or supplier are the most significant causes of excusable delays. Meanwhile delay due to architect instruction, delay in late information given by architecture and delay also due to failure of employer to provide access to site are the most significant of excusable compensable delays in the building projects.

Elina (2008) studied the project construction delay which is focus in Johor Bahru about the reasons and impact of construction delays. Although our research are in the same state, but my research would be more concentrate on Malaysia in infrastructure project. Sambasivan and Yau conducted a survey on the causes and effects of delays in Malaysian Construction Industry, which was focus on the reasons and impact to the project delays in all Malaysia. In a study by Alhomidan (2015), a survey of contractors' viewpoint was conducted to investigate the top causes of cost overrun at the infrastructure projects in Saudi Arabia. A list of 41 factors of cost overrun causes was considered. Among these factors, it was concluded that according to opinions of the responding contractors the top causes of cost

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